

Serial No. 09/921,170

Reply to Office Action of October 20, 2003.

REMARKS

Responsive to the Office Action mailed October 20, 2003, Applicants have studied the Examiner's comments and the cited art. Claims 1-9, 11-19, 21-24, 26-27, 29-31, 33-39, and 41-44 are currently pending. In view of the following remarks, Applicants respectfully submit that the application is in condition for allowance.

Applicant has amended claims 1, 11, 21, 23, 29, 35, and 36 to clarify the relative positioning of the flange, heel section, and lip section.

Telephonic Interview

Applicant and the Examiner held a telephonic interview on December 1, 2003, discussing the claims and rejections of the current Office Action. No agreement was reached on the claims.

Anterior-Posterior

In the arguments below, Applicant recognizes that the terms "anterior" and "posterior" do not, without more, specifically define an orientation. However, one skilled in the art will recognize that the terms "anterior" and "posterior" define a relative and opposite orientation to each other, e.g., if an anterior surface is considered a right-facing surface of an object, then a posterior surface of that object must be a left-facing surface.

Further, once an anterior-posterior direction is defined for one object in a collection, that also defines anterior and posterior directions for other objects considered therewith, e.g., if two objects abut each other, an anterior surface of a first object does not abut an anterior surface of a second object; rather, the anterior surface of the first object abuts a posterior surface of the second object, for consistency of language.

Claim Rejections Under 35 U.S.C. § 102

Claims 1-3, 5-9, 11-13, 15-19, 21-23, 27, 29, 30, 33-34, and 36-39 are rejected under 35 U.S.C. § 102(b) as being anticipated by Pittman, U.S. Patent No. 3,319,537. Applicants respectfully traverse the rejections.

With respect to claims 1, 11, and 21, Pittman fails to recite a flange that is embedded into a posterior surface of a heel section, while connecting a lip section to an anterior surface of the heel section, as in Applicant's claimed subject matter. If the groove 44 of the slip ring 43 into which the washer 33 is inserted is considered the posterior surface of the slip ring 43, then the anterior surface of the slip ring 43 must be interpreted as the radially outer surface of the slip ring 43, which engages the cylinder wall.¹ In that case, the lip section of Pittman, asserted by the Office Action as the lips 41 and 42, does not connect to the anterior surface of the slip ring 43.

Alternatively, if the anterior surface of the slip ring 43 is considered either the rightmost or leftmost (from the point of view of Fig. 4) surface of the slip ring 43, then

¹ Fig.4; col. 2, line 54-col. 3, line 2.

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Pittman fails to recite embedding the washer 33 in the opposite and posterior surface of the slip ring 43. Thus, regardless of which surfaces are considered anterior and posterior surfaces of the slip ring 43, Pittman fails to recite Applicant's claimed subject matter. For these reasons, Applicant respectfully requests withdrawal of the objections.

Claims 2-9, 12-19, 21-24, 26-27, and 41-43 depend from allowable claims 1, and 21, and are therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejections.

Further, with respect to claims 4, 14, and 24, Pittman fails to recite forming an annular lip on a posterior surface of the annular flange, overlapping the annular lip with the heel section. The Office Action fails to identify any such structure in Pittman. As can be best seen in Fig. 4, if the outer surface of washer 33 is considered as embedded into a posterior surface of the slip ring 43, then the posterior surface of the washer 33 must be considered as radially opposite the outer surface or anterior surface of the washer 33, i.e., the surface of the central opening of the washer 33. As can be clearly seen in Fig. 4, no portion of the central opening surface of the washer is covered by any portion of the slip ring 43. For these additional reasons, Applicant respectfully requests withdrawal of the rejections.

With respect to claims 5, 15, and 26, Pittman fails to recite an annular projection formed in an outer surface of the lip section where the maximum outer diameter of the annular projection is in an interior portion of the annular projection, as in Applicant's claimed subject matter. As best seen in Fig. 4, the maximum diameter of the lips 41 and 42 is at the outermost edge of the lips 41 and 42. For these additional reasons, Applicant respectfully requests withdrawal of the rejections.

With respect to claim 29, a similar argument applies. If the surface of the slip ring 43 into which the outer edge of the washer 33 is inserted is considered a posterior surface of the slip ring 43, then the lips 41 and 42 are not formed on an anterior surface of the slip ring 43 as in Applicant's claimed subject matter. For these additional reasons, Applicant respectfully requests withdrawal of the rejections.

Claims 30-31 and 32-34 depend from allowable claim 29 and are therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejections.

Further, claim 31 recites forming an annular lip in the posterior surface of the piston hub. As shown above, Pittman fails to recite forming such an annular lip in the posterior surface of the piston hub, and the Office Action fails to identify any such structure. For this additional reason, Applicant respectfully requests withdrawal of the rejection.

In addition, claim 33 recites forming a concentric annular projection in the lip portion having a maximum outer diameter in an interior portion of the concentric annular projection. As shown above, the lips 41 and 42 have a maximum outer diameter on an exterior edge of the lips 41 and 42. For this additional reason, Applicant respectfully requests withdrawal of the rejections.

With respect to claim 35, Pittman fails to recite a first and second annular heel sections that cover the first and second surfaces of the piston hub, as in Applicant's claimed

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subject matter. As can be best shown in Fig. 4, a substantial portion of one surface of the washer 33 is uncovered by any of the cylindrical molded body 34 or the slip ring 43.² In no case does the slip ring 43 cover either surface of the washer 33. For these reasons, Applicant respectfully requests withdrawal of the rejections.

Claim 44 depends from allowable claim 35 and is therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejections.

With respect to claim 36, similar arguments as provided above with respect to claims 1, 11, and 21 apply. For these reasons, Applicant respectfully requests withdrawal of the rejections.

Claim 37 depends from allowable claim 36 and is therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejections.

In addition, the lips 41 and 42 of Pittman do not form an annular projection in the outer surface such that the annular projection has a maximum outer diameter in an interior portion of the annular projection. As shown above, the maximum diameter of the lips 41 and 42 is at an outer most edge of the lips 41 and 42. For this additional reason, Applicant respectfully requests withdrawal of the rejection.

Claims 1-7, 11-17, 21-24, 26, 29-31, 33, and 35-37 are rejected under 35 U.S.C. § 102(b) as being anticipated by Dailey, U.S. Patent No. 3,136,228. Applicants respectfully traverse the rejections.

With respect to claims 1, 11, and 21, Dailey also fails to recite a flange that is embedded into a posterior surface of a heel section, while connecting a lip section to an anterior surface of the heel section. The Office Action asserts that the supporting ring 72 corresponds to the flange and the low frictional material 74 of Applicant's claimed subject matter.³ Applicant notes that previous Office Actions considered the annular disc 62 as part of the flange, but the current Office Action excludes the annular disc 62 from the flange. In the telephonic interview of December 1, 2003, the Examiner confirmed that only the support ring 72 of Dailey is considered the flange, excluding the annular disc 62. Further, although the Office Action asserts that the axially outer portions 16 and 18 of Dailey recite a lip section, in the telephonic interview of December 1, 2003, the Examiner indicated that the lip 68 of the axially outer portions 16 and 18 should be considered the lip section instead of the entire axially outer portions 16 and 18. The arguments below are based in part on this understanding of the elements of Dailey.

If the interface between the supporting ring 72 and the low frictional material 74 is considered a posterior surface of the low frictional material 74, then the lip portion 68 is not connected to the anterior surface of the low frictional material 74, which instead engages the cylinder wall, as best shown in Fig. 1. Likewise, if the lip 68 is connected to an anterior surface of the low frictional material 74, i.e., if the interface between the lip 68 and the low frictional material 74 that extends outwardly from the annular disc 62 is considered the anterior surface of the low frictional material 74, then the support ring 72 is not embedded

² Fig. 4; col. 3, lines 8-9.

³ Paper 13, pp. 2 and 3.

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into a posterior surface of the low frictional material 74, but into a lateral surface of the low frictional material 74. For these reasons, Applicant respectfully requests withdrawal of the rejections.

Claims 2-9, 12-19, 22-24, 26-27 and 41-43, depend from allowable claims 1, 11, and 21, and are therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejections.

In addition, with respect to claims 4, 14, and 24, Dailey fails to recite forming an annular lip on a posterior surface of the annular flange overlapped by the heel section. As can best be seen in Fig. 3, no such annular lip on a posterior surface of the support ring 72 exists, nor has the Office Action identified such a formation. Further, if the support ring 72 is embedded into an anterior surface of the low frictional material 74, as recited by Applicant's claimed subject matter, then the posterior surface of the annular flange is at the inner opening of the annular flange (unnumbered) through which the reduced diameter end portion 52 of the piston rod 12 is inserted, which is in no way connected to the heel section. For these additional reasons, Applicant respectfully requests withdrawal of the rejections.

With respect to claims 5, 15, and 26, Dailey also fails to show an annular projection formed in an outer surface lip section, having a maximum outer diameter in an interior portion of the annular projection. As best shown in Fig. 4, the maximum outer diameter of the lip 68 is at an outer most edge of the lip 68 instead of in an interior portion of the lip 68. For these additional reasons, Applicant respectfully requests withdrawal of the rejections.

With respect to claim 29, similar arguments apply. Dailey fails to recite a posterior surface of a heel section abutting an anterior surface of the piston hub where a lip section is formed onto an anterior surface of the heel portion, as shown above. For these reasons, Applicant respectfully requests withdrawal of the rejections.

Claims 30-31 and 33-34 depend from allowable claim 29 and are therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejections.

In addition, with respect to claim 31, as shown above, Dailey fails to show forming an annular lip in the posterior surface of the piston hub and wrapping the first resilient material over the annular lip. The Office Action ignores this limitation and fails to assert any such structure in Dailey. For this additional reason, Applicant respectfully requests withdrawal of the rejection.

With respect to claim 33, as shown above, the maximum outer diameter of lip 68 is not in an interior portion of a concentric annular projection as in Applicant's claimed subject matter. For this additional reason, Applicant respectfully requests withdrawal of the rejections.

With respect to claim 35, Dailey fails to recite a posterior surface of the first annular heel section covering the first surface of the piston hub, as in Applicant's claimed subject matter. Applicant's claimed subject matter recites an annular flange having a first surface, a second surface, and an outer surface connecting the first surface and the second surface. The

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low frictional material 74 of Dailey covers an outer surface of the supporting ring 72,⁴ and fails to recite covering any other surface of the supporting ring 72. Thus, Dailey fails to recite all of the limitations of Applicant's claimed subject matter. For these reasons, Applicant respectfully requests withdrawal of the rejection.

With respect to claim 36, in addition to the failure of Dailey to recite a posterior surface of annular or heel section covering the anterior surface of the annular flange, as shown above, Dailey fails to show an annular bumper section as in Applicant's claimed subject matter. Dailey recites the low frictional material 74 covering the outer surface of the supporting ring. However, Dailey fails to recite any use of the low frictional material 74 at an intersection between the outer surface and the posterior surface. As shown above, given the portion of the support ring 72 recited by Dailey as covered by the low frictional material 74 is considered the anterior surface of the annular flange of Applicant's claimed subject matter, as asserted by the Office Action, the posterior surface of the supporting ring 72 must be considered the inner opening through which the reduced diameter end portion 52 of the piston rod 12 is inserted. For these reasons, Applicant respectfully requests withdrawal of the rejections.

Claim 37 depends from allowable claim 36 and is therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejection.

In addition, as shown above, the lip 68 of Dailey fails to recite an annular projection having maximum outer diameter in an interior portion of the annular projection. For this additional reason, Applicant respectfully requests withdrawal of the rejection.

Claim Rejections Under 35 U.S.C. § 103

Claims 41-43 are rejected under 35 U.S.C. § 103 as being unpatentable over Pittman, U.S. Patent No. 3,319,537, in view of Handbook of Plastics, Elastomers and Composites (hereafter, "the Handbook").

Claims 41-43 depend from allowable claims 1, 11, and 21 and are therefore also allowable. For at least these reasons, Applicant respectfully requests withdrawal of the rejections.

Claims 41-44 are rejected under 35 U.S.C. § 103 as being unpatentable over Dailey, U.S. Patent No. 3,136,228, in view of Handbook of Plastics, Elastomers and Composites (hereafter, "the Handbook").

Claims 41-44 depend from allowable claims 1, 11, 21, and 35, and are therefore also allowable. For at least this reason, Applicant respectfully requests withdrawal of the rejections.

CONCLUSION

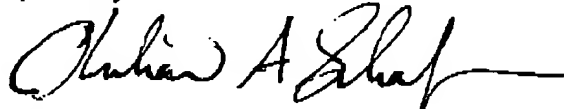
Applicants respectfully submit that all issues and rejections have been adequately addressed, that all claims are allowable, and that the case should be advanced to issuance.

⁴ Col. 3, lines 60-62.

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If the Examiner has any questions or wishes to discuss the claims, Applicants encourage the Examiner to call the undersigned at the telephone number indicated below.

Respectfully submitted,



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